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China Report

AGRICULTURE

No. 170



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28 October 1981

CHINA REPORT
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I. GENERAL INFORMATION

BEIJING WATER TABLE FALLS; SHORTAGE A PROBLEM

Beijing BEIJING RIBAO in Chinese 2 Aug 81 p 1

Article by Staff Commentator: "Everyone Is Responsible For Conserving Water"

Text Since the last 10 days of July, drought and less than average rainfall have persisted in this city, temperatures have been high and the weather has been hot and sultry. The amount of water used has drastically increased. The present water supply capabilities of the city's water company can no longer satisfy the needs for water of the masses in daily living and industrial production. This problem has become one requiring the attention of each sector and the people of the whole city and requiring an urgent solution by joint efforts.

The shortage of water supply occurring at present in Beijing is not by chance. The water resources in the Beijing area were not rich originally. During the past 2 decades and more, as the urban population increased dramatically and as industrial and agricultural production developed, the amount of water needed for living and for industrial and agricultural production in Beijing city increased by multiples. Because of the overexploitation of underground water, the underground water level has continued to drop. According to surveys, under the ground of Beijing city, a funnel area of 1,000 square kilometers with a dropping water level has already been formed. The average drop in water level is 4.3 meters, while the central area has a maximum drop of about 20 meters. The shortage of water has already become an outstanding problem in the construction of the capital. The method of solving this problem is to open up sources and to conserve the flow. Opening up sources means first to fully utilize water resources of the ground surface; this requires building new reservoirs to store water in some regions and refilling underground water in flatland regions. But these measures require extensive construction, a large amount of capital and a long time, and they can only be carried out according to plan when the state's finances and material supplies allow. To solve the present problem, the people of the entire city must be mobilized to carry out all effective measures and to use all methods to conserve the use of water.

Conservation of the use of water must first be carried out starting with the industrial and mining enterprises. The amount of water used by the city's industrial and mining enterprises constitutes 42 percent of the total amount of water used by the entire city. But the waste is serious. This is mainly because the average rate of circulated use of water by the factories is very low. There are many factories that do not circulate later for use, so a massive amount of water which can be used many times is used only once and drained away. There are also many factory and mining enterprises

that use water without the necessary control systems: running water and leaking water are serious. The causes of these problems are mainly that the leading comrades of some enterprises do not have sufficient understanding of the importance of conservation in the use of water. Whenever conservation of water is mentioned, some comrades consider it is a "small" matter. They are not enthusiastic about circulating water for use: they emphasize objective difficulties, they believe it is troublesome, and they delay or postpone inclusion of such efforts in the daily business agenda. There are also leading comrades of some enterprises who do not understand the measures to levy fees on private wells. They express opposition and believe this is "a mean attempt to levy miscellaneous taxes." These comrades should realize that nature's water is not inexhaustible. It is finite, like such resources as coal and petroleum; therefore, water is very precious to the state. Its proportion in the cost of enterprises may be relatively low, but its role is very important. Wasting water will bring about more serious results to people's lives and industrial and agricultural production. We hope each factory, mine and enterprise will overcome the ideology of departmental selfishness, adopt an overall view, take immediate action, and use all means to carry out the work of circulated use of water well. Each unit should also strengthen management of water use: besides educating the workers in conservation of water, it should also establish and make sound the management system, strengthen maintenance and repair of water pipes, stop leaks, and prevent the occurrence of running water, leaking water and seepage of water. Concerned departments of the city should strengthen management of the use of water by each unit, establish necessary quotas for water supply, and collect unified and reasonable fees. Double fees must be collected from units that use more than their quota of water. Water conservation measures and techniques must be established within a definite period and implemented. Because of the insufficient water resources in Beijing, expansion and building of new factories that use large amounts of water and cause serious pollution should be strictly controlled. In the use of water for agriculture, because irrigation quotas are not strictly controlled, because the irrigation techniques are relatively backward, wastefulness is relatively serious, and thus rational irrigation quotas should be established, and conditions should be created to gradually popularize advanced irrigation techniques of spray irrigation and drip irrigation.

The potential for conserving the use of water for city life is also great. Everyone's daily life requires water, and everyone is responsible for conserving the use of water. At present, the waste in this regard is also great. Some people do not think of the whole situation, they only think of their own convenience, and waste a lot of water. Some faucets are not turned off for long periods, some use lengthy flow of water "to soak watermelons in water." Each unit must educate the workers in conservation of water; people who waste water must be criticized and supervised. At the same time, management must be strengthened. According to statistics compiled by the water company, family residences having a water meter can conserve an average of one-third the amount of water compared to residences without a water meter. If each family of residents conscientiously conserves the use of water and persists in conservation to form a habit, the amount of water that can be conserved a year is formidable. This will undoubtedly serve importantly in slowing the shortage of the city's water supply. The city's water company and concerned leading departments should take active measures to quickly install water meters in family residences; they should also frequently help residents inspect the water supply equipment, prevent running water and water leaks. At present, staff and worker dormitories of some units in the city practice the water fee inclusion system: each person pays a small water fee each month, and most of the water fees are subsidized by the units, so the waste of water is very serious. Concerned units should actively carry out measures to abolish the system of subsidizing water fees so as to stop waste.

NATIONAL

SICHUAN PROVINCE DEVELOPS IMPROVED VARIETIES OF RICE

Luke No 3

Chengdu SICHUAN RIBAO in Chinese 20 Aug 81 p 2

Article by Jiang Shanzhi /T203 3790 00377 of the Scientific Technology Department of the Provincial Agricultural Science Academy: "High Unit Yield, Superior Quality of Rice, Strong Resistance, Broad Adaptability--the Provincial Paddy Rice Research Institute Successfully Breeds New Variety of Xian Rice 'Luke No 3'"

Text The paddy rice research institute of the provincial Agricultural Science Academy has successfully bred a high-yielding, disease-resistant, superior-quality new intermediate xian variety of paddy rice called "Luke No 3."

Recently, the paddy rice research institute of the provincial Agricultural Science Academy invited experts, responsible cadres, and scientific and technical personnel from the seed companies of our province's major paddy rice producing regions--Wenjiang, Daxian, Leshan, Neijiang, Yongchuan, Nanchong, Yibin, and Peiling--regional agricultural science institutes, county seed stations and the results office of the provincial science committee, and the Xinan Agricultural Academy, totaling 28 units, to conduct field evaluation of the new intermediate xian paddy rice variety "Luke No 3" in a demonstration and experiment in large area production. The delegates attending the show all agreed that the growth of "Luke No 3" was prosperous, the root system was developed, the stalks were strong, large and firm, tillering was strong, the panicles were large and grains were abundant, disease resistance was strong, adaptability was broad, the quality of rice was superior, and the form of the plant and the productive potential were similar to hybrid paddy rice. Further propagation and popularization of "Luke No 3" will have significant economic meaning in increasing paddy rice production in our province.

"Luke No 3" was bred from the hybridization of "Ye 17" and "Lushuang 1011." The combination was produced in 1970 and the stable line was selected in 1975. The entire growth period is 140 days; planted as intermediate rice in southeastern Sichuan, it is sown during the last 10 days of March. Panicles emerge during the middle 10 days of July, and maturation occurs during the first and middle 10 days of August. It is suitable for cultivation as an intermediate rice in large areas in our province. According to experiments conducted in 1977 and 1980, the unit yield is from 900 to 1000 jin, the value of increased yield per mu is 71 jin more of grains than the main propagated superior variety Lushuang 1011 in our province at present, 94.3 jin more than Nanjing No 11, and 110 jin more than Zhen Zhuai. At the Xinjian Commune in Shizhu County and Shima Commune in Lu County, per mu yields reached 1,200 to 1,223 jin.

"Luke No 3" has a strong resistance to blast of rice, and it has not been observed to have been affected by bacterial blight. The quality of the rice is good, the percentage of coarse rice is 78.8 and the percentage of polished rice is 74.5, higher than the major propagated superior variety of rice currently used in production in our province. According to determinations made by the test center of the Hubei Province Agricultural Science Academy, "Luke No 3" has a protein content of 11.3 percent; the masses say the rice is soft and fragrant.

Since the planting of "Luke No 3" for demonstration in production, the area of planting has increased to 200,000 mu in recent years. The provincial paddy rice institute has carried out purification and strengthening twice in preparation for providing original seeds to each locality so that each locality can hasten propagation in order to better popularize and apply it in production.

Guichao Variety

Chengdu SICHUAN RIBAO in Chinese 20 Aug 81 p 2

Article by staff correspondent He Xiaoping [6320 1420 1627]: "Wenjiang County Does Good Work in the General Survey and Evaluation of the Superior Variety 'Guichao' and in Storage Preparation, and Exerts Efforts To Harvest More Superior Varieties of Paddy Rice To Support Disaster Regions"

Text Wenjiang County has used every method to do the work of preparing for the storage of the superior variety of paddy rice "Guichao," to exert efforts to harvest more superior varieties and to support the disaster regions in our province.

Wenjiang County, which has successfully popularized the "Guichao" superior variety in our province, has planted over 180,000 mu of "Guichao" No 2, No 4 and No 13 throughout the county this year, constituting 92 percent of the area of paddy rice. Because transplanting was timely, application of fertilizers was appropriate, and management was careful, during the first 10 days of August the paddy rice plants headed and grains emerged and there is hope for a bumper harvest. According to typical test production, the per mu yield will not be lower than last year's 900 jin. The per mu yield of "Guichao" No 13 can reach 1,000 jin. Recently paddy rice in many heavy disaster areas in our province has been submerged under water. Some seed propagation fields of hybrid paddy rice have also been destroyed. Next year there will definitely be a shortage of superior varieties of paddy rice. For this reason, the responsible comrades of the provincial committee suggested that Wenjiang County exert efforts to harvest the superior paddy rice variety "Guichao" well in a big way to support the heavy disaster area. When the broad number of farm village cadres and masses of Wenjiang County heard about this, they all regarded the support of heavy disaster regions as a glorious task that must not be refused. Under the leadership of the county committee, each commune thought of ways to do the work of general surveys and evaluation of the superior variety of "Guichao" well and carry out preparation for harvesting and storage well.

Now the entire county has transferred technical personnel from the county seed company, the county agricultural technology station and the plant protection station to join the communes and brigades to carry out large area general surveys to determine 100,000 mu of qualified "Guichao" superior variety fields. To assure the purity of

the seeds, each commune brigade has assigned agricultural science personnel to be specifically responsible for guiding the work of weeding out impure plants and diseased plants from the seed fields. The county has asked each production team and operating unit to harvest and thresh each individual plant, dry it, preserve it, assure the seed grains are full, and make sure there are no semifilled husks and no mildew. At the same time, regulations have been issued to allow only the county seed company to contract with purchasing units from outside the county when selling seeds to outside localities so that the quality can be assured and the prices will be reasonable. At present, the Wenjiang County Seed Company has negotiated with each commune and brigade, signed seed purchasing contracts, taken advanced orders for harvesting and storing superior seeds and has mobilized various types of preparatory work.

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CSO: 4007/577

NATIONAL

CCPCC, STATE COUNCIL ISSUE DECISION ON DEVELOPING FORESTRY

Beijing RENMIN RIBAO in Chinese 24 Aug 81 p 1

Article: "Thoroughly Implementing the Decision of the Chinese Communist Party Central Committee and the State Council: Each Locality Grasps Tightly the Protection of Forests To Develop Forestry and Stabilizes Rights of Mountain Forests, Establishes the Responsibility System in Forestry, and Strengthens Centralized and Unified Management of Timber"

Text Beijing, 23 August--On 8 March the Central Committee of the Chinese Communist Party and the State Council issued a "decision on several problems concerning the protection of forests and the development of forestry." Each province, city, party committee of the autonomous region and the people's government paid attention and took further steps to conscientiously implement the decision on the basis of thoroughly accepting the decision.

Up to the first 10 days of August, 19 provinces, cities, party committees of autonomous regions and people's governments of Beijing, Liaoning, Hebei, Shaanxi, Guangxi, Shandong, Yunnan, Ningxia, Hubei, Tianjin, Qinghai, Fujian, Shanxi, Jilin, Anhui, Jiangsu, Jiangxi, Guizhou, and Xizang has held forestry meetings and implemented the decision concerning problems in forestry issued by the party Central Committee and the State Council. Some provinces and autonomous regions are actively preparing to hold forestry meetings. The provinces, cities and autonomous regions that have already held such meetings have all combined the actual situation of their localities to establish "regulations" or "notices" to implement the "decision" concretely.

Each locality has broadly launched the work of stabilizing rights over mountains and forests, and has implemented the production responsibility system in forestry. Up to the present, the nation already has 23 provinces, cities and autonomous regions which have established test points and issued certificates of rights. Among them, 10 provinces, cities and autonomous regions have already begun to carry this out throughout the area. The nine provinces, cities and autonomous regions of Fujian, Liaoning, Shanxi, Guangxi, Hunan, Guizhou, Henan, Shaanxi, Beijing have already zoned private mountain land for over 2.7 million family commune members; the total area has reached over 10 million mu. Commune members in Shaanxi and Shanxi Provinces have already afforested 1.43 million mu of deserts, waste beaches and private mountains. Many forms of production responsibility system in forestry. Shandong Province already has over 50,000 brigades practicing the production responsibility system in forestry, constituting 60 percent of the total number of brigades throughout the province. The number of production teams in Henan Province that have implemented the production responsibility system in forestry constitutes over 50 percent of the total number of production teams, and the area has reached 3.24 million mu.

In strengthening centralized and unified management of timber, many provinces and autonomous regions have established concrete management methods or issued corresponding regulations in accordance with the spirit of the "decision." Many provinces and autonomous regions have also zoned some county forest regions. Seven provinces--Hubei, Hunan, Jiangxi, Hebei, Shaanxi, Shanxi and Anhui--have zoned a total of 159 county forest regions and clarified the scope of centralized and unified management of timber.

The provinces of Hebei, Guangdong, Hunan, Fujian have also brought out some food grains this year and readjusted and reduced the tasks of procurement of food grains of the forest regions, solving the problem of insufficient rations of food grains for commune members in forest regions. The provinces, cities and autonomous regions of Guangxi, Fujian, Hebei and Beijing have decided that each year a fixed amount of capital is to be taken out of local finances for developing forestry. Guangxi has appropriated 5 million yuan and Hebei has appropriated 3 million yuan to help the localities develop forestry.

Many localities have established and made sound the public security, procuratorial organs and people's courts for forestry, filled out and strengthened the public security guards for forestry, and strengthened the rule by law to protect forests and to maintain order in forest regions.

The party committee and government at each level have included the development of forestry in the schedule of important tasks, the soundness of forestry agencies has been enhanced, and it has been decided that the leading agencies at each level assign a leading party and administrative cadre to oversee or specifically take charge of forestry work.

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CSO: 4007/577

BRIEFS

SUGAR BEET HARVEST--Beijing, 8 Oct (XINHUA)--Sugar beet output of Heilongjiang Province, China's leading producer, is estimated to be 3.2 million tons this year, slightly higher than last year, despite sustained rains and waterlogging in the summer, according to the Ministry of Agriculture. Heilongjiang grew 256,000 hectares of sugar beets this year, accounting for half of the country's total. More than 10 percent of the area was waterlogged. The province's 1980 output was 3.16 million tons. Inner Mongolia, China's third major sugar beet producer, expects to harvest 20 percent more on 68,000 hectares this year than last, the ministry said. Harvesting is now being done. These two areas expanded sugar refining facilities over the past few years to cope with increased output. Heilongjiang raised its refining capacity from 300,000 tons last year to 380,000 tons this year with the addition of two new sugar refineries and revamping of existing ones. Inner Mongolia has increased its annual capacity from 130,000 tons to 140,000 tons through technical transformation of several existing big refineries. [Text] [Beijing XINHUA in English 0250 GMT 8 Oct 81]

NEW FINE-WOOL SHEEP--Beijing, 8 Oct (XINHUA)--China has succeeded in breeding a new type of sheep that produces heavy fleece of long fine wool, according to an announcement made by the Ministry of Agriculture today. The new breed yields a clip of six to seven kilograms a year on the average, mostly of 64 count quality. The rate of clean wool reaches 50 percent. The length of the staple is between 9 and 10 centimeters. The fine wool fibers are beautifully crimped and the fleece carries sufficient oil to keep the fibers soft and pliable. Tests show that the elasticity, tensile strength and other physical and chemical properties of the wool are better than that from existing breeds in China and compatible in some aspects to the world's best fine wool. The fabrics produced with this kind of wool are on a par with those woven with fine imported wool. China's breeding of fine-wool sheep has developed rapidly since 1973. To date, the country has 25 million fine-wool sheep and improved breeds. Quite a number of research units and universities are engaged in such work in Xinjiang, Inner Mongolia and Jilin Province. [Text] [Beijing XINHUA in English 1214 GMT 8 Oct 81]

RAPSEED PRODUCTION--Beijing, 15 Oct (XINHUA)--The Oil-Bearing Crop Institute of the Chinese Academy of Agricultural Sciences has achieved results in helping 16 counties in Hubei, Hunan, Anhui and Jiangxi Provinces improve their rape-growing technique. Compared with last year, the total output of rapeseed from the 1,565,200 mu of fields in these counties this year increased by 31,930,000 jin, worth 16,763,000 yuan. It is estimated that about one-half of the increased yield is attributed to the improved technique in growing the crop. [OW201145 Beijing XINHUA Domestic Service in Chinese 0033 GMT 15 Oct 81]

NUCLEAR WATER-PROSPECTING TECHNOLOGY--Beijing, 2 Oct (XINHUA)--China has achieved initial results in applying nuclear technology to prospecting underground water sources. Based on the findings of hydrogeology and structural geology as well as on the principle of prospecting and drilling mines by applying radioactive materials, the new technology is used to locate underground water sources by measuring the differences in radioactivity underground to prospect the water stored there. At present, this technology is being used in various provinces and autonomous regions, including Shandong, Jiangsu, Sichuan, Guangxi, Guangdong, Fujian, Hubei, Hebei and Liaoning. A chemical fibre plant built in the region with igneous rocks in Jiangsu Province could not be put into normal operation because of water shortage. The Jiangsu Provincial Geological Bureau adopted this new technology and successfully drilled a well with a daily water-producing capacity of 270 dun to meet the needs of this plant. The first national symposium on this technology, jointly sponsored by the Chinese Society of Nuclear Science and the Chinese Society of Geology, was held in Pingying County, Shandong Province from 20 to 25 September. The symposium affirmed that the new technology, a new method applied in hydrogeological and geophysical prospecting and drilling, has good prospects in locating underground water sources as the new technology can be easily applied with portable instruments and can achieve high efficiency at low cost. [Beijing XINHUA Domestic Service in Chinese 0051 GMT 2 Oct 81]

CSO: 4007/34

PROVINCE'S SPRING PEANUT HARVEST 'BEST IN HISTORY'

Puzhou FUJIAN RIBAO in Chinese 9 Aug 81 p 1

[Article by Wang Zhicheng [3769 1807 4453]: "Our Province's Spring Peanut Harvest Is Best Harvest in History; Over 760,000 Mu Have Already Been Harvested and the Average Per Mu Yield Was 229 Jin, an Increase of 74 Jin Over Last Year"]

[Text] This year, our province's over 1.16 million mu of spring peanuts grew well in general. According to statistics released on 7 August by the provincial agricultural department, the whole province has already harvested over 760,000 mu of spring peanuts, and the average per mu yield was 229 jin, an increase of 74 jin over last year, the best harvest in history.

This year, each locality, especially each peanut-producing region, conscientiously readjusted the distribution of paddy and dryland crops, suited measures to local circumstances, developed superiority, and expanded the planting area of spring peanuts--the area of actual planting was expanded by more than 80,000 mu over last year. Because the production responsibility system was implemented, many localities practiced contracting production of peanuts to the laborer and to the family, greatly mobilizing the enthusiasm of the commune members; with the popularization of the superior varieties of "yueyou 551" and "yuexuan 58" and with improved planting techniques, the growth trend of spring peanuts has always been good. Since the harvest, bumper harvests have been reported continuously, and numbers of high-yielding fields and bumper harvest plots have emerged. In Jinjiang and Longxi Prefectures, which are major peanut-producing regions, the unit yields have all surpassed 200 jin, reaching 217 jin. Xiamen city has already harvested over 150,000 mu, and the unit yield has reached 297 jin. Putian Prefecture's harvesting season of spring peanuts is relatively late but bumper harvests are expected: over 50,000 mu have already been harvested, and a per mu increase of 58 jin has been registered. Many localities have reported that this year the actual yield of spring peanuts has surpassed the estimated yield; the fields that have already been harvested have generally produced increased yields and those fields that have not been harvested may produce even higher yields. Viewing the crops that have already been harvested, an increased yield of over 30 percent has been common, and there are many cases of increased yields of over 50 percent.

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CSO: 4007/589

SOME AREAS REPORT SURPLUS PROCUREMENT OF SOYBEANS, PEANUTS

Fuzhou FUJIAN RIBAO in Chinese 14 Aug 81 p 1

[Article by Chen Guocheng [7115 0948 2052] and the county food bureau and county reporting group: "Jinjiang Prefecture's Soybeans Warehoused Increased 1 Million Jin Over the Same Period Last Year; Dongshan County Completed the Entire Year's Peanut Procurement Task With a Surplus of 16 Percent"]

[Text] As of 3 August, Jinjiang Prefecture has already completed this year's soybean procurement task of 7 million jin with a surplus of 240,000 jin, an increase of 1.08 million jin over the same period last year.

Jinjiang Prefecture has the largest soybean procurement task in the whole province. This year, it implemented the production responsibility system and developed the enthusiasm of the collective and the individual commune members. Over 170,000 mu of spring soybeans of the entire prefecture realized bumper harvests: per mu yields of 250 jin could be found everywhere. Huian County has already warehoused 3.33 million jin of soybeans, completing the procurement task with a surplus, an increase of 420,000 jin over the same period last year. The amount of soybeans warehoused in Nanan County surpassed the procurement task by onefold. The whole prefecture has 23 communes mainly producing soybeans, and all have fulfilled or overfulfilled the procurement task. Some counties also developed the superior situation of producing a bumper harvest of soybeans and sold more soybeans to the state as a substitute for food grain procurement tasks, so as to make up for the drop in the harvest of early rice. For example, Nanpu Commune in Huian County and Luoxi Commune in Quanzhou city completed soybean procurement tasks with a large surplus and used soybeans to substitute for food grains, thus completing the whole year's food grain procurement task.

After this year's spring soybeans were produced, the provincial people's government readjusted the uniform procurement price for soybeans. Commune members of the major soybean-producing communes in Jinjiang Prefecture received an increase in income of about 1 million yuan because the procurement price of soybeans was raised. The food grains department conscientiously carried out price negotiations according to quality and the policy of giving better prices for better quality. The quality of soybeans warehoused this year is generally better than last year.

As of 9 August, 5.22 million jin of peanuts were warehoused in Dongshan County, completing the year's procurement and price raising tasks with a surplus of 16 percent.

One of our province's major peanut-producing region is Dongshan County. This year, the county again realized a bumper harvest of peanuts. The broad numbers of cadres and commune members of the farm villages were happy and actively sold their peanuts to the state. The progress of warehousing peanuts throughout the county was 37 days faster than the same period last year. The quality was better than previous years: 90 percent were above medium quality. The peanut harvest of the Baicheng Brigade of Chencheng Commune was good: the total yield increased 48 percent over last year. Commune members sold 430,000 jin of peanuts to the state at once, surpassing the task by 150,000 jin; each family sold an average of 804 jin of peanuts; this brigade warehoused the most and achieved the best quality harvest throughout the county. Dongying Brigade commune member Weng Laohai [5040 5071 3189] of Qianlou Commune completed the procurement task of 323 jin and also provided 1,000 jin of peanuts for sale to the state, while at home he still had several hundred jin of peanuts filling large and small containers. At present, each commune and brigade throughout the county is continuing to sell peanuts to the state.

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CSO: 4007/589

ZHANGPU COUNTY ACHIEVES BUMPER SPRING PEANUT HARVEST

Fuzhou FUJIAN RIBAO in Chinese 16 Aug 81 p 1

[Article by Yan Liren [0917 0448 0086] and Yang Anle [2799 1344 2867] of the Zhangpu County Committee's Reporting Group: "Readjusting the Crop Distribution, Popularizing Scientific Planting--Zhangpu County Produces an Increased Yield of 10 Million Jin of Peanuts This Year"]

[Text] Zhangpu County, one of our province's base counties of oil-bearing crops, realized a large bumper harvest of spring peanuts on nearly 120,000 mu this year. According to the forecast figures at the end of July of each commune (farm, the total yield of peanuts of the whole county reached over 25.6 million jin, an increase of over 10.7 million jin over last year, or 72 percent, and the unit yield rose 71 jin, all creating the highest record in history.

In Zhangpu County, the big increase in yield of peanuts this year was mainly due to two aspects. The first was that the crop distribution was appropriately adjusted according to the actual situation in Zhangpu County, which is located along the coast and which has sandy soil and slopes. While concentrating on food grain production, measures were suited to local circumstances to expand the planting area of spring peanuts. This year, the area of spring peanuts throughout the county increased by more than 16,000 mu over last year. The second was that the enthusiasm of the masses and scientific methods were combined. This year, Zhangpu County conscientiously implemented the various forms of the production responsibility system, fully mobilizing the productive enthusiasm of the commune members. The party and administrative leadership of each level used many measures and forms according to the different needs of the thousands of families and tens of thousands of commune members to help and guide the farmers in scientific planting. This year, the whole county generally carried out early sowing in time. Superior varieties of autumn peanuts, "yueyou 551" and "yuexuan 58", constituted over 80 percent of the crops, and thus the budding percentage of this year's spring peanuts was high, the resistance to adversity was strong, and bumper harvests were achieved. The county government placed a lot of emphasis on the production of oil-bearing crops. At the beginning of April, it held an onsite peanut fields management meeting at the Chihu Commune, printed materials and emphasized accomplishing well five key measures--the seedling period's sidedressing of fertilizers, application of fertilizers outside the roots, weeding and banking of soil, scientific management of water, and prevention of diseases and insect pests. Instead of the old habit of not applying sidedressings to peanuts or applying sidedressing of fertilizers late,

it propagandized the scientific principles of sidedressing of fertilizers during the seedling period to stimulate healthy branches and more flowers, and the spraying and application of phosphorous, potassium, molybdenum and boron fertilizers that produce visible results. Throughout the county, over 100,000 mu were given sidedressing of fertilizers during the seedling period and sidedressing of fertilizers outside the roots. Because the plants were of superior varieties and because field management was good, the growth trend of peanuts this year was good, damage by disease was light, there was more fruiting, there was less semiempty fruit, each peanut was full, the unit yield generally rose, and the conversion rate of wet peanuts also rose from the 43 percent of previous years to 51 percent. The total yield of peanuts produced by the Houhu Brigade of Chihu Commune reached over 480,000 jin, double that of last year. The unit yield surpassed 300 jin. Farmer technician Chen Jianlin [7115 1696 2651] of this brigade and his family planted 9 mu of peanuts, and they harvested a total of 3,850 jin of dry peanuts, including 1 mu of high-yielding experimental field which produced a harvest of 670 jin. At present, the commune members are selling the bumper harvest of peanuts to the state, and the peanut procurement task and the added price procurement task will be completed with surplus.

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CSO: 4007/589

COUNTY CHANGES ORDER OF RICE, SOYBEAN ROTATION CROPPING

Fuzhou FUJIAN RIBAO in Chinese 26 Jul 81 p 1

[Article: "Changing the Order of Rice and Soybean Rotation Cropping in the Single Season Rice Fields; Datian County's Spring Soybean Yield Increases Eighthfold"]

[Text] Datian County has readjusted its planting system, changing the past method of planting one season of autumn soybeans after harvesting single season rice to first planting one season of spring soybeans and then planting single season rice, i.e., changing the "rice-soybean" system to the "soybean-rice" system. This year, the county utilized the single season rice fields and the sweet potato fields on the mountains to plant spring soybeans covering 9,318 mu, and a total of over 1.4 million jin of spring soybeans was harvested, an increase of more than eight times over last year.

Datian county historically used single season rice fields to plant autumn soybeans. In 1978, the agricultural science station of Shangjing Commune introduced 2 liang of "gutian spring soybean" into its garden and harvested 4 jin of spring soybeans. In the second year, it sowed 4 fen of land and harvested 104 jin of soybeans. The variety showed a broad adaptability, thick stems, more pods, and full seeds. It was also resistant to disease. The party committee of the commune believed that changing the planting of autumn soybeans to planting spring soybeans in single season rice fields would not affect the yield of rice, but that each mu could produce an increased harvest of over 100 jin of soybeans, so it decided to mobilize the masses to plant spring soybeans in a big way. Last year, the agricultural science station of the commune bought from the country seed company over 2,000 jin of "gutian spring soybean" and test planted 230 mu of spring soybeans at many test localities on the superior variety farm of the commune, and in the Shangjing, Huangcheng and Xiling Brigades; the average per mu yield of spring soybeans amounted to 173 jin, with the highest reaching 200 to 300 jin. This spring, the Datian County committee and the county government summarized and popularized this experience of the commune and implemented large area double cropping of "soybean and rice" (or soybean and sweet potato) throughout the county. Everyone saw that developing spring soybeans saved work and saved costs and was more economical than engaging in sideline production. Thus, everyone took the initiative to change the planting of autumn soybeans to planting spring soybeans. Guangping Commune popularized the planting of spring soybeans over 1,880 mu this year, and generally realized bumper harvests. Qidao, Jianshe and Taihua Communes utilized mountain land to plant spring soybeans in a big way, changed single season sweet potato to one crop of soybean and one crop of sweet potato, and the per mu yield reached over 120 jin. Because

the soybean root nodule bacteria fixed nitrogen, and with the withered roots and fallen leaves, the root system remained in the fields, the fertility of the land visibly increased, and this did not cause a reduction in the harvest of the sweet potato aftercrop. The Zhongxin Forest Farm of Jianshe Commune planted over 40 mu of spring soybeans as a companion crop on young forest land and in orange plantations this year and all realized bumper harvests.

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CSO: 4007/589

PROVINCE ACHIEVES BUMPER SPRING SOYBEAN HARVEST

Fuzhou FUJIAN RIBAO in Chinese 27 Jul 81 p 1

[Article by Dong Diwei [5516 1593 0251] of the Department of Agriculture: "Our Province's Spring Soybeans Increase Yield by 33 Percent; After Implementing the Responsibility System, the Whole Province's Area of Soybean Plants Increases by 70,000 Mu Over Last Year, the Area of Companion Planting Increases Nearly Onefold From Last Year, and the Unit Yield Increases 23 Jin"]

[Text] Our province achieved a general bumper harvest of spring soybeans: the total yield increased 33 percent over last year and the unit yield was 156 jin, 23 jin more than last year. In Longxi Prefecture, the total yield increased by 46 percent and the unit yield increased by 27 jin, all creating the highest levels in the region's history. In Huian County, one of the major spring soybean-producing regions, the total yield increased 2 million jin over last year.

According to reports by the agricultural departments of each locality, the general bumper harvest of spring soybeans this year was mainly the result of the conscientious implementation of the various policies of the party in the farm villages at each locality. After implementing the production responsibility system, the enthusiasm of commune members to plant more spring soybeans and to plant well was very high. After completing the planned planting area, many ways were used to dig for the soil's potential to engage in companion planting in a big way. The planting area throughout the province was expanded by nearly 70,000 mu over last year, and the area of companion planting reached some 400,000 mu, an expansion of nearly onefold over last year. Changtai County undertook expanded planting in a big way, and the total yield doubled over last year. Xiamen city popularized companion planting on sugar cane plantation,s and this alone produced an additional harvest of 1.6 million jin of soybeans, constituting one-fifth of the total yield of spring soybeans.

Each locality conscientiously implemented scientific planting of soybeans, concentrated on the key technical measures, and exerted efforts to raise the unit area yield. This is another important reason for this year's bumper harvest of spring soybeans. This year, regardless of whether it was the collective or the individual, everyone did the work of carefully selecting seeds well, sowed the seeds in time, applied sufficient fertilizers, managed the fields in a timely way, made sure the seedlings were full and strong, made sure the seedlings prospered, and made sure the foundation for the seedlings to produce bumper harvests was laid well. With the good weather during the flowering and pod-forming stages, the fruiting percentage and the hundred grain weight generally increased over previous years.

9296

CSO: 4007/589

RICE BLAST CAUSE OF THIS YEAR'S DEVASTATION OF EARLY RICE

Fuzhou FUJIAN RIBAO in Chinese 15 Aug 81 p 2

[Article by the inspection group of the resistance of early rice varieties to rice blast of the provincial paddy rice breeding cooperation group: "The Reason for This Year's Epidemic of Rice Blast in Early Rice and Suggestions for Future Prevention and Control"]

[Text] Editor's Note: This inspection report on rice blast disease in early rice was written by 17 paddy rice experts and technicians who went deeply into the fields and conducted actual inspection. They analyzed the reason for this year's epidemic of rice blast disease in early rice and proposed measures to control further epidemic outbreaks of rice blast. It is valuable as a reference in guiding present and future efforts to prevent and control rice blast disease.

After the big outbreak of this year's rice blast disease in early rice, people worried about this question: Will the disease become epidemic during the late rice crop? Viewing the characteristics of the occurrences of rice blast in our province, early rice is generally more seriously affected by the disease than late rice. But in some years, the disease has been serious during both seasons, and especially in the mountain regions, the late season is more seriously affected than the early season. This year's epidemic of rice blast in early season rice left a lot of bacterial sources for the late rice crops. Regarding the present situation, a lot of the single season intermediate and late rice and double season late rice transplanted early has begun to contract the disease. This is a danger signal! There must never be indulgence in wishful thinking. Each locality must implement the guideline that "prevention is more important than control", conscientiously handle diseased straws, and eradicate the center of occurrence of rice blast as early as possible. The leadership at each level, especially the leadership in localities where the disease has already occurred, should learn the lesson of the early season and strengthen the leadership in the prevention and control of rice blast and other disasters. The insensitive and irresponsible attitudes of not having sufficient confidence in preventing and

controlling rice blast, "becoming frightened when talking about the disease", and entertaining wishful thinking regarding rice blast should all be eliminated. If the leadership at each level raises its spirits and takes the lead in going deeply into the frontline of production with the attitude of being highly responsible for the people, understands the constantly changing situation, mobilizes the masses and organizes forces in all aspects, and joins all efforts, rice blast in late rice can be controlled completely.

During the last 10 days of June, as our province's early rice was seriously affected by rice blast disease, 17 of us under the leadership of paddy rice expert Lin Quan [2651 2938], deputy director of the provincial Agricultural Science Academy and member of the provincial paddy rice breeding cooperation group, and Comrade Li Senhui [2621 2773 1920], paddy rice expert, deputy director of the Rice and Wheat Research Institute of the provincial Agricultural Science Academy and member of the provincial paddy rice breeding cooperation group, went to the four prefectures of Jianyang, Sanming, Longyan and Longxi to inspect the rice blast disease in paddy rice. We inspected the agricultural science institutes of these four prefectures, the Congan County Agricultural Science Institute, the superior seed farms of the four counties of Jianou, Liancheng, Longyan and Huaan, and 21 production units of 12 commune brigades in the 9 counties of Congan, Jianyang, Jianou, Shaxian, Mingxi, Longyan, Liancheng and Longhai. We took 12 days and travelled over 2,000 kilometers. During the inspection, we saw with our own eyes the damage by rice blast, especially in Sanming and Longyan, where the damage was the most serious. At the same time, we also saw the moving and stubborn struggle of the broad ranks of cadres and commune members in the farm villages against the disease. Through this field investigation and visit we gained a preliminary understanding of the causes of the epidemic of rice blast in early rice this year. During the first 10 days of July at Zhangzhou, when we concluded our brief visit, we carried out a conscientious discussion, we reached a relatively unanimous view and we made some suggestions on future prevention and control and on scientific research.

Analysis of the Cause of the Epidemic of Rice Blast in This Year's Early Rice

This year, the disease began during the seedling period in our province's early rice. Up to the last 10 days of June, an area of over 1.7 million mu had already been affected by leaf rice blast throughout the province. Since the founding of the nation, this is certainly the year with the earliest occurrence and the fastest spread of the disease, the widest epidemic, the greatest threat by the disease and the greatest loss due to the disease. Why has this year's rice blast been so serious? According to what we heard and what we saw along the way, we believe there are four reasons:

First, the red line varieties lost their disease resistance; this was the internal cause of the occurrence of the disease. The variety affected by the disease over large areas in four regions was mainly the red line variety. According to reports by Sanming Prefecture, the "red 410" had been popularized over a large area for 5 years; the area had been expanded year after year, and damage by the disease had increased year after year; by 1979, the area of occurrence of the disease was about 100,000 mu. In 1980 it reached 270,000 mu, and in 1981 it was over 700,000 mu. In Jianyang Prefecture, the area of occurrence of the disease affecting the "red 410" increased from 30,000 mu in 1980 to over 120,000 mu in 1981. All this showed that the disease-resistance of the red line variety was gradually being lost.

Second, the climate factor was favorable to the occurrence and spread of the disease. This was the main external reason for the occurrence of the disease. The characteristics of this year's weather were high temperatures, little rain and sufficient sunshine from the middle and last 10 days of April to the first 10 days of May; these conditions were favorable for the growth of the seedlings and tillering of early rice. From the middle and last 10 days of May to the first and middle 10 days of June, temperatures dropped, there was more rain, the amount of sunshine was deficient, and this was unfavorable for the growth of early rice, and as a result, the rice seedlings grew prosperously and remained green, creating a favorable condition for the occurrence of the disease and for the bacteria to attack. Therefore, from the middle 10 days of May, the area affected by the disease gradually expanded. According to statistics, during the last 10 days of June the area affected by leaf blast disease throughout the province was 1.81 million mu; at the beginning of July panicle neck blast affected an area of 1.06 million mu, and over 114,000 mu produced no harvest. In Jianyang Prefecture, on 21 May the area of disease was 10,000 mu, by 8 June the area of disease had expanded to 81,000 mu, and by 15 June the area of disease had expanded again to 128,000 mu. In Sanming Prefecture, during the middle 10 days of May the area of disease was 100,000 mu, during the first 10 days of June the area of disease had expanded to 300,000 mu, and by 16 June the area of disease had expanded again to 710,000 mu. This shows that when the temperature drops to the range suitable for the occurrence of the disease and when rainfall increases and sunshine lessens, the conditions are favorable for the occurrence of the disease. Therefore, the weather conditions served the major function of inducing rice blast in the northwestern mountain regions of Fujian to spread quickly and become an epidemic over a wide area, and to cause a big threat.

Third, pursuing high yields, unilaterally applying nitrogenous fertilizers and neglecting scientific planting are important human factors that induced the occurrence of the disease. This year, our province's farm villages implemented the production responsibility system and the productive enthusiasm of the farmers was extremely high, but because the knowledge of scientific planting was not sufficiently widespread, many farmers sought high yields and unilaterally applied nitrogenous fertilizers, causing the rice seedlings to remain green and to grow prosperously, inducing the occurrence of the disease. For example, the Yuzhu Brigade of Gaosha Commune in Shaxian purchased an additional 60,000 jin of ammonium carbide besides the 240,000 jin distributed by the state; the per mu average application of fertilizers was as high as over 300 jin; as a result, disease occurred over large areas and this resulted in a serious reduction in yield.

Fourth, popularization and implementation of comprehensive effective prevention and control measures were relaxed, so the area of propagation of the pathogen expanded and the numbers increased cumulatively. This is the main reason for the expansion of the occurrence of the disease; for example, the seeds were not disinfected, diseased straws were not treated, the center of occurrence of the disease was not controlled and eradicated in time, so in this year's weather conditions, which were especially suitable for the occurrence of the disease, the disease broke out.

In addition, a problem that was most vigorously pointed out by each locality was that the supply of farm chemicals was not supplied in time. When the disease occurred, farm chemicals could not be purchased, the farm chemicals that were bought had mostly been kept for many years and some had even lost their effectiveness; thus they could not control the expansion and spread of the disease and so the farmers suffered great economic loss.

Rice Blast Can Be Prevented and Controlled

Although this year's rice blast disease in early rice was serious, we also saw that under the same weather conditions in many units and communes and brigades, rice blast did not occur or the disease was not serious. For example, the headquarters of Daci Institute of the Long Yan Prefecture Agricultural Science Institute has always been known as the "rice blast institute." In 1971, the institute's 300 mu of ricefields produced a per mu average of only over 70 jin because of the serious occurrence of rice blast disease. But this year the disease was light. Again, for example, the large area of early rice of the superior variety farm of Jianou County was not affected by disease, and even the most vulnerable "red 410" and the "shuanghongzao" did not contract the disease. Also, for example, the disease was slight at the Xinquan Commune in Liancheng County. What was the reason? According to the report by the Long Yan Prefecture Agricultural Science Institute, the reason is mainly that during the past few years, they undertook renewal of the varieties, treatment of the source of the bacteria, improvement in the application of fertilizers and similar measures. The experience reported by comrades of the Jianou County superior variety farm was mainly that they concentrated on three aspects in cultivation techniques: The first was not applying sidedressing of fertilizers during the second intertilling. The second was the additional application of 20 jin of potassium chloride per mu. The third was baking the fields. Secretary of the Xinquan Commune Huang Dengfa [7806 4098 4099] also did three things: first, he renewed the varieties—he did not plant "red 410," but he expanded and replaced the plants with the three varieties "77-175," "jinghong 1," and "kefuhong 2"; second, he did not plant varieties of glutinous type grains in sandy fields; third, he popularized the application of potassium fertilizers. These measures of selectively using disease-resistant superior varieties, eradicating the source of bacteria, and improving cultivation and management are consistent with the principle of "taking prevention as the key and carrying out comprehensive prevention and control". Their experience can be summed up in one statement: plant scientifically. Although the occurrence and development of rice blast is a complex problem and there are still many problems to be explored and studied, we have already grasped some of the patterns and we can utilize the patterns already grasped to carry out scientific prevention and control.

During the inspection we also discovered that the same variety showed differences in resistance or nonresistance under the ecological conditions of different regions. For example, "zuke 2" and "kejing 63-1" manifested relatively strong resistance to the disease in Jianyang Prefecture and could be called a disease-resistant superior variety. But in Sanming Prefecture, these varieties manifested nonresistance, and in Longxi Prefecture they were between resistant and nonresistant. This shows that the disease resistance of superior varieties is conditional, not "omnipotent." Superior varieties are an important factor in increasing yield, but to allow them to develop their function in increasing yields, they must be combined with superior methods in order to control the disease achieve the goal of high and stable yields.

Five Suggestions To Control Recurrence of an Epidemic of Rice Blast

First, selectively use disease-resistant varieties, rotate the varieties and renew the seeds at fixed intervals. Practice shows that disease-resistant varieties will not be disease-resistant forever; within a specific number of years of planting, the variety will gradually lose its resistance. For example, "keqing3," "zhengshan 97", "zhenglong 13," and "zaiyeqing" all progressed from having a high resistance to

having a low resistance to disease within 3 to 4 years in our province and were finally replaced by other varieties. Today, "red 410", which has contributed greatly to increasing the production of food grains in our province, will complete its historical duty. It will progress from being highly resistant to being nonresistant and will be replaced by other varieties. After inspection and exchange of opinions by the localities, it is preliminarily believed that next year each locality can use other disease-resistant varieties to replace the "red 410": Jianyang Prefecture has the early maturing "guifu 3" and "buluoqian"; intermediate maturing varieties "wenxuanqing," "zuke 2," and "kejing 63-1". Sanming Prefecture has the early maturing "guifu 3," "buluoqian," "zao 29," and "zhengqingzao 1;" the intermediate maturing "zaozai 8," "hongyun 33," "rongnuo 31," "79-44", "kefuhong 2", and "77-175", "kefuhong 2", "hongnuo 31", and "zaiyeqingnuo." Longxi Prefecture has the early maturing "longguanghong" and "zhuhongzao 2"; the intermediate maturing "longshuanghong"; and the late maturing varieties "Nanjing 11" and "shanyou 2".

Second, give up the unilateral application of nitrogenous fertilizers and pay attention to increasing the application of potassium fertilizers; these are key measures to controlling the epidemic of rice blast in the northwestern mountain regions of Fujian. The combination of inorganic fertilizers and organic fertilizers and the combination of nitrogenous fertilizers and phosphorous and potassium fertilizers produce visible results in increasing yields and they also control or reduce the occurrence of disease. The plant protection research laboratory of the Jianyang Prefecture Agricultural Science Institute used "red 410" in experiments and showed that "red 410" can grow healthily without becoming diseased by applying 2,500 jin of astragalus per mu and 10 dan of human manure as base manure with a first sidedressing of 15 jin of ammonium carbide and a second sidedressing of 15 jin of ammonium carbide added to 10 jin of potassium chloride. This shows that a combination of organic fertilizers and inorganic fertilizers with the addition of potassium fertilizers can control the occurrence of the disease and can prevent the disease. The plant protection research laboratory of the Longyan Prefecture Agricultural Science Institute used the two varieties, "red 410" and "longguanghong" in the experiment to control the occurrence of disease by increasing the application of potassium fertilizers, and the experiment also showed that this visibly controlled the occurrence of the disease. In the experiment of combining nitrogenous, phosphorous and potassium fertilizers at the superior variety farm of Jiangkou Commune in Jianyang County, it could be seen from the contrast of applying and not applying potassium fertilizers that the application of potassium fertilizers produced visible increases in yield. A commune member of the Yuzhu Brigade of Gaosha Commune in Shaxian did not use ammonium carbide on the shaded mountain ridge fields along the roadside, but used simply kiln ash from the firing of bricks, and the plants did not become diseased but grew very well. These facts show that increasing the application of potassium fertilizers is a key measure. Especially in sandy fields, application of potassium fertilizers produces even more visible results.

Third, treating rice straw to prevent outbreaks should be carried out well in old diseased regions. The facts prove that bacteria of the disease can propagate, spread and cause damage under suitable weather conditions, so long as there is a single trace of diseased rice straw remaining, let alone the fact that this year's early season was a year of severe epidemic. Thus, straw in the regions diseased this year must be handled more strictly so that no remnants are left. Many localities have placed great emphasis on this problem, returning straw to the fields, using straw

as fuel, using straw as compost or burning the straw into ashes. This is very good. But some localities have not emphasized this enough, and this is dangerous. Diseased straw must not be piled up anywhere leaving remnants for the disease.

Fourth, disinfection of the seeds should be promoted in a big way; this is an effective measure that is simple and easy to carry out. One method is to soak the seeds in 1 percent lime water. Seeds for the early season can be soaked for 72 hours and seeds for the late season can be soaked for 48 hours. The second method is to soak the seeds in a "401" solution of 500 parts to one or 1,000 parts to one. Seeds for the early season can be soaked for 48 hours and seeds for the late season can be soaked for 36 hours.

Fifth, it is suggested that the supply and marketing departments do a good job of supplying farm chemicals and farm chemical tools, and the farm chemicals that have accumulated for many years and have lost their effectiveness should be handled properly. It is understood that the supply and marketing cooperatives of a few communes sold the farmers EBP left over from the 1950's that had already lost its effectiveness. A popular saying says that treating disease is like fire fighting; it is suggested that the supply and marketing departments carry out an inventory clearance and strengthen leadership in this respect and improve the supply of farm chemicals in a big way.

Breeding Varieties That Are Disease-Resistant Must Be Placed in an Important Position

During this inspection we realized profoundly that although our paddy rice breeding work made definite achievements in the past, such as breeding tall stemmed varieties into short stemmed varieties and breeding short stemmed varieties into hybrid paddy rice, and each step forward served actively in the development of food grain production in our province, nevertheless, because of the development of the situation in agricultural production--raising the level of production and increasing in the amount of fertilizers applied--the broad numbers of farmers have made new demands upon the varieties, and our breeding work can no longer adapt to this situation. At present, our province's agricultural production has brought upon us demands in the five aspects of "early maturity, bumper harvest characteristics, superiority, resistance, adaptability". Especially the problem of "resistance" is more worthy of our attention. This is because if the variety is not disease-resistant or its resistance to disease is not strong, it cannot assure high and stable yields and it will even produce a reduced yield. Therefore, breeding varieties with disease resistance must be placed in an important position to be grasped firmly and well, and we must strive to produce new achievements in the 1980's to adapt to the new demands of agricultural production and the broad number of farmers.

To do the work of breeding disease-resistance well, there are three problems that need to be solved: One is the problem of funds; it is suggested that concerned departments pay attention to the importance of breeding disease-resistant varieties and give appropriate additional funds and care. The second is the problem of guidance; it is suggested that the Scientific Research Department of the provincial Agricultural Sciences Academy coordinate with the provincial Rice and Wheat Institute to do the guidance work well. The third is that cooperative and coordinated work has two difficulties: one is that the distribution of the physiological forms of rice blast disease throughout the province is still not understood, and it is suggested

that the provincial plant protection institute strengthen research to provide a basis for breeding varieties that are disease-resistant. The second is that the parent materials of "disease resistance" are lacking, and it is suggested that the provincial Rice and Wheat Institute fill out and strengthen research in the resources of varieties and the facilities and conditions to provide more and better disease-resistant parent materials for breeding disease-resistant varieties throughout the province.

Breeding work involves the sciences of breeding, cultivation and plant protection. It is complex work. Only by cooperation among multiple disciplines and multiple departments can the steps be hastened so that superior varieties can emerge early to serve production. Each cooperative unit must carry out exchange of experience in breeding in time and communicate technical information to each other and cooperate fully so that achievements can be obtained as quickly as possible.

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CSO: 4007/586

FUJIAN

BRIEFS

QINGLIU COUNTY SOYBEANS--This year Qingliu County, Fujian Province, has harvested more than 2 million jin of soybeans. This averages 100 jin for each farming household. [OW201145 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 12 Oct 81]

COUNTY TEA PRODUCTION--Fujian's Songxi County has reaped a bumper tea harvest this year, with total output reaching 27,000 dan. By the end of September, the county had sold more than 23,000 dan of tea to the state. [OW141545 Fuzhou Fujian Provincial Service in Mandarin 1120 GMT 8 Oct 81]

CSO: 4007/34

MEIXIAM PREFECTURE ACHIEVES BUMPER SUMMER HARVEST

Guangzhou NANFANG RIBAO in Chinese 24 Aug 81 p 1

[Article: "Meixian Prefecture Increases Yield of Summer Harvested Economic Crops on a Large Scale"]

[Text] This year Meixian Prefecture achieved a bumper summer harvest of economic crops. Compared to the same period last year, the yield of summer harvested peanuts of the entire prefecture increased 23 percent, the yield of soybean harvest increased 41 percent, the yield of tobacco harvest increased 1.6 times, and the yield of jute (bluish dogbane) increased 18.6 percent. Spring planted sugar cane generally had a good growth trend, and fruits and agriculture also underwent new development.

This year, Meixian Prefecture conscientiously strengthened and perfected the various production responsibility systems: most of the economic crops were contracted to the family or to the laborer, surplus yields were rewarded, and thus the productive enthusiasm of the masses was effectively mobilized, field management was strengthened, such natural disasters as drought, disease and insect pests and floods were overcome, and the unit area yields increased.

9296

CSO: 4007/581

SEMIANNUAL COMMUNE, BRIGADE ENTERPRISE FIGURES GIVEN

Guangzhou NANFANG RIBAO in Chinese 19 Aug 81 p 1

[Article: "Develop Daily Consumer Products to Suit the Market To Achieve Our Province's Commune and Brigade Enterprises Progress in Wide Strides in Readjustment; Total Income in the First Half Year Increased 27 Percent Over the Same Period Last Year"]

[Text] During the first half of this year, our province's commune and brigade enterprises continued to develop relatively quickly. The total income reached over 2.13 billion yuan, an increase of 27 percent over the same period last year. Of the 13 prefectures and cities of the whole province, 11 realized increased income. Of them, Foshan Prefecture realized an increase of 50 percent; Guangzhou, Zhuhai and Shaoguan cities realized an increase of over 30 percent.

An important reason that our province's commune and brigade enterprises could develop so rapidly is that readjustment work was grasped well, production of daily consumer products was developed in a big way, and suiting the products to market needs was successfully carried out. Foshan Prefecture and Guangzhou, which originally had a heavier ratio of machinery industry, continued to do a good job of readjustment this year and the results were outstanding. In Shunde County, whereas previously the productive value of the machinery industry constituted over one-third of the total, now the ratio of light textile industry constitutes 87 percent. During the first half of this year, the total income of the commune and brigade enterprises of the entire county increased 50 percent over the same period last year. In Fanyu County the proportion of the light textile and clothing industry and the household commodities, hardware and electrical appliances industry constituted 40 percent and 30 percent respectively. Clothing and machine embroidery factories were scattered throughout 24 communes (towns) throughout the county, income from this item alone increased by over 70 percent over the same period last year, and profits increased onefold. Enping County concentrated on cement, floor tile laying and small hydroelectric power enterprises, and developed the superiority of the locality. During the first half of this year, the total income of the commune and brigade enterprises increased over onefold over the same period last year.

Commune and brigade enterprises of many localities continued to do well in joint enterprise, as did joint enterprises of production teams. The number of joint enterprises in Foshan Prefecture increased from over 400 last year to 1,426 enter-

prises. During the first half of this year, in the Guangzhou suburbs over half of the production teams established enterprises. The income of these enterprises increased one-fold over the same period last year.

Implementation of special policies and versatile measures have served importantly in the development of our province's commune and brigade enterprises. This year, in the prefectures and cities of Foshan, Guangzhou, Shantou, Shenzhen and Zhuhai, activities involved in producing export products for foreign trade and in the "three incoming materials and one supplement" (processing of incoming materials, processing of incoming samples, assembly of incoming parts, supplementing trade) were lively, and the income increased on a large scale. Zhuhai city increased 23 items of "the three incoming materials and one supplement" during the first half of this year; the total value of processing for export reached over 17 million Hong Kong dollars, an increase of over 30 percent over the same period last year.

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CSO: 4007/581

ZHANJIANG PREFECTURE INCREASES PEANUT YIELD 10 PERCENT

Guangzhou NANFANG RIBAO in Chinese 22 Aug 81 p 1

[Article: "Zhanjiang Prefecture's Spring Peanut Yield Increases 10 Percent; Total Yield Reaches Over 179 Million Jin"]

[Text] Last year the yield of spring peanuts in Zhanjiang Prefecture increased by over 42 million jin, and this year increased yields were realized again; the total yield reached over 179 million jin, an increase of 16.49 million jin over the same period last year, an increase of 10.1 percent. The counties and cities producing an increased yield of over 10 percent were Dianbai, Maoming, Xuwen, Lianjiang.

Zhanjiang Prefecture is one of the major peanut-producing regions of our province. Since the beginning of this year, because the policy of rewarded sale for peanuts was good, and with the addition of the popular implementation of the various forms of the production responsibility system at each locality through the entire prefecture, commune members had autonomy over production and the enthusiasm of the masses was effectively mobilized. This year, spring peanuts were planted over 1.164 million mu throughout the prefecture, 130,000 mu more than last year.

9296

CSO: 4007/581

FENGKAI COUNTY INCREASES ROSIN PRODUCTION OVER 90 PERCENT

Guangzhou NANFANG RIBAO in Chinese 20 Aug 81 p 1

[Article: "Fengkai County Completes This Year's Rosin Production Task With Surplus"]

[Text] Zhaoqing—Fengkai County, one of the key rosin producing regions of our province, completed this year's rosin production task as of the 17th of this month, producing a total of 5,724 tons of rosin, an increase of over 90 percent over the same period last year.

This year, each commune and brigade in Fengkai County generally implemented the responsibility system of specialized contracts of rosin gathering; at the same time, the task of producing rosin was assigned to the commune and brigade. Profits for the surplus were returned to the producer, effectively mobilizing the productive enthusiasm of the communes and brigades and the rosin farmers. The number going to the mountains to gather rosin reached over 5,900 people, an increase of over 1,700 over last year. The rosin farmers went into the mountains earlier than previous years and thought of ways to gather more rosin.

9296
CSO: 4007/581

BRIEFS

HAINAN OIL PALM FARM--With the approval of the PRC Foreign Investment Control Commission, Chengmai County overseas Chinese farm has signed a contract with the Singapore South Sea Oil Palm Plantation Company for the joint management of an oil palm farm. Under the guidance of the technical advisors of the Singapore South Sea Oil Palm Plantation Company, the oil palm farm has cultivated a large number of superior oil palm seeds which were introduced from abroad. The preparations for building the oil palm farm are being stepped up. In May last year, at the invitation of the Overseas Chinese Affairs Office of the State Council and the Guangdong Provincial Overseas Chinese Farms Administration Bureau, the Singapore South Sea Oil Palm Plantation Company sent two directors and two technical advisors to come to the region twice to conduct investigation and subsequently decided to invest 30 million dollars in the joint management of the 120,000-mu oil palm farm with Chengmai County overseas Chinese farm. The period of joint management is 25 to 30 years. Oil palm trees will be planted on 600 this year, on 30,000 mu next year and on 120,000 mu in 1985. [HK05115 Haikou Hainan Regional Service in Mandarin 0330 GMT 9 Sep 81]

MOUNTAIN, FOREST RIGHTS--Party committees and people's governments at all levels in Guangdong Province have seriously implemented the decision of the central authorities and the State Council on forestry. Over the past 6 months, 81 counties and communes in 187 mountainous and semimountainous areas in the province have set up trial points for settling mountain and forest rights and implementing forestry production responsibility systems. In the trial points, the ownership of mountains and forests has been fixed, the disputes on mountains and forests have been handled, certificates of mountains and forests have been issued and contracts for forestry production have been concluded and signed. The masses' enthusiasm for afforestation and protection of forests has been further mobilized and the development of forestry production has been promoted. The Provincial Agricultural Committee and the Provincial Forestry Department recently held a forum of the trial points to exchange their experiences. The forum made further arrangements for settling mountain and forest rights and implementing forestry production responsibility systems. [HK05115 Guangzhong Guangdong Provincial Service in Mandarin 2330 GMT 5 Sep 81]

CSO: 4007/34

GUIZHOU

BRIEFS

AUTONOMOUS PREFECTURE PRODUCTION--The Qiandongnan Autonomous Prefecture has begun to reap paddy rice. The autonomous prefectoral CCP committee also decided that without affecting the harvest of late fall crops harvest, the autonomous prefecture must mobilize commune members to cultivate as much wheat, barley, potatoes and broadbeans as possible. The autonomous prefecture has planned to cultivate summer grain over 500,000 mu, 60 percent more than last year; to cultivate rape over 550,000 mu; and to ensure a total output of 80 million jin of rape, 15 percent more than last year. [HK110330 Guiyang Guizhou Provincial Service in Mandarin 2315 GMT 17 Sep 81]

CSO: 4007/34

JIANGSU

BRIEFS

XINYI COUNTY WHEAT SOWING--Jiangsu's Xinyi County has sown wheat, barley and naked barley on more than 300,000 mu of land. It plans to sow these crops on 650,000 mu of land. [OW201145 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 9 Oct 81]

CSO: 4007/43

BRIEFS

XINHE COUNTY REWARDS PEASANTS--Xinhe County, Nei Monggol Autonomous Region, has adopted a reward system among peasants who have handed over more grain to the state. According to the county's provisions, peasants who have handed over to the state between 3,000 and 5,000 jin of grain will receive a bicycle or a box of plate glass. Those who have handed over to the state over 5,000 jin of grain will receive a sewing machine or a cubic meter of timber. The county has prepared 330 cubic meters of timber, 156 boxes of plate glass, 182 sewing machines and 156 bicycles. [SK082234 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 7 Oct 81]

JIREM LEAGUE DEVELOPMENT--Jirem League set records in animal husbandry, forestry and agriculture this year. By the end of June, it had 3.37 million head of livestock, an increase of 170,000 head over 1980. This spring, over 710,000 mu of land were afforested, fulfilling 95.5 percent of the annual afforestation plan. The young tree survival rate was over 70 percent. The league's wheat acreage declined by 40,000 mu this year. However, its wheat output was 7.5 percent higher than last year, because per-mu yield of wheat has increased substantially. By the end of August, the league had overfulfilled its annual currency withdrawal target by 13.8 percent and had increased the savings deposits of urban and rural areas by 38.8 percent as compared with the corresponding 1980 period. [SK042140 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 3 Oct 81]

CSO: 4007/34

SHANDONG

BRIEFS

WHEAT SOWING--Taian Prefecture, Shandong Province, is engaged in combating drought to sow wheat. As of 28 September, the prefecture as a whole had dispatched some 2.02 million laborers to work on the farms. They had plowed and raked 2.56 million mu of farmland, drained and irrigated 2.14 million mu of land and sown 1.18 million mu of wheat. This prefecture planned to sow 3.5 million mu of wheat in 1981. Laiwu County now has dispatched some 300,000 persons and operated some 4,400 drainage and irrigation machines daily to work on the farms. By 28 September, this county had sown 198,000 mu of wheat, 61 percent of the wheat sowing plan. [SK031056 Jinan Shandong Provincial Service in Mandarin 2300 GMT 2 Oct 81]

CSO: 4007/34

INCREASED USE OF CHEMICAL FERTILIZERS AIDS PRODUCTION

Hangzhou ZHEJIANG RIBAO in Chinese 28 Jul 81 p 2

[Article: "Our Province's Chemical Fertilizer Industry Can Basically Satisfy Agricultural Needs; It Has Served Greatly to Stimulate Increased Yields in Agriculture"]

[Text] Our province's chemical fertilizer industry has developed rapidly and has served greatly to stimulate increased yields in agriculture. According to comments by concerned departments, the chemical fertilizers needed in our province's food grain production basically depend upon the supply from the province's small chemical fertilizer plants. From 1960 to 1980, the whole province produced a total of over 15.9 million tons of chemical fertilizers; if we calculate on the basis of each jin of chemical fertilizers producing an increased yield of 3 jin, this amount of chemical fertilizers producing an increased yield of 3 jin, this amount of chemical fertilizers produced an increase of a total of over 47 million tons of food grains.

At the beginning of the liberation, our province did not know how to produce chemical fertilizers, which were called "powder to fertilize the fields" and "sacred water" by the farmers. The province relied completely on imports. In 1949, an average of only 0.2 jin of chemical fertilizers was applied per mu of cultivated land in our province. By 1958, it was only 5.4 jin. Because of a lack of fertilizers, for a long time the yield of food grains lingered at about 500 jin and did not increase. After 1958, each locality, city and county of our province insisted on self-reliance and the guideline of hard struggle and established small chemical fertilizer plants with over 30,000 workers. They can produce over 10 chemical fertilizers, including urea, ammonium carbide, ammonium sulfide, calcium superphosphate, and potassium sulfate. In 1980, the annual production of chemical fertilizers amounted to 2.4 million tons, basically satisfying the agricultural production needs of the whole province. Chemical fertilizers have become an important factor in the increased yields of food grains in our province. The small chemical plants at each locality in the province are called by the members of the people's communes in farm villages "our specialized fertilizer accumulation team." Especially after the crushing of the "gang of four," our province's chemical fertilizer industry progressed dramatically, the yield increased on a large scale, and the level of agricultural application of fertilizers increased greatly. The amount of chemical fertilizers applied per mu of cultivated land throughout the province increased from 4.3 kilograms in 1959 to 89.8 kilograms in 1979; the per mu yield of food grains also correspondingly increased from 610

jin to 1,354 jin. Now, the people's communes in farm villages are also commonly applying chemical fertilizers for tea trees, fruit trees and vegetables, and they are also gradually using chemical fertilizers as the "catalyst" in raising fish and cultivating pearls. Placing a little chemical fertilizer in fish ponds can cause aquatic algae to grow prosperously and can also stimulate the appetite of the fish so that they eat more and grow more quickly. Using urea in combination with feed to feed hogs can stimulate the pigs to grow fat and put on flesh. The widespread use of chemical fertilizers in the farm villages is contributing more and more to the development of our province's agriculture, forestry, livestock production, sideline production and fishery.

9296

CSO: 4007/581

PROVINCE PROCUREMENT PRICE OF SOYBEANS RAISED 50 PERCENT

Hangzhou ZHEJIANG RIBAO in Chinese 2 Aug 81 p 1

[Article: "Procurement Price of Soybeans Is Raised 50 Percent; No Change in Selling Price of Soybeans and Soybean Oil For Supplying People in Cities and Towns"]

[Text] To facilitate mobilizing the enthusiasm of the broad number of farmers to plant and sell soybeans and based on the decision of the State Council, as of 1 August our province's procurement price for soybeans has been raised to the current procurement price for surplus, i.e., from 23 yuan 5 jiao for every 100 shi jin to 35 yuan 5 jiao, an increase of 50 percent. At the same time, the method of added prices for procurement of surplus soybeans is abolished.

While raising the procurement price of soybeans, in order to stabilize the market price and not to add to the burden of life of people in cities and towns, there is no change in the selling price of soybeans and soybean oil, and the portion for circulation, exchange, seeds, rewarded sales, feed and the portion sold to farm villages has the same procurement and selling price.

There is no change in the conversion rate and the policy of rewarded sales for soybeans. When a farmer completes that year's soybean procurement task and has surplus soybeans, he can sell the surplus to the state at the adjusted procurement price; he can also negotiate the price of the sale. The state's food grains department will still negotiate the procurement price for soybeans according to the market, and the price should be slightly lower than the market price. This principle should be grasped.

9296

CSO: 4007/581

INCREASED NUMBER OF RABBITS RAISED BY COMMUNE FAMILIES

Hangzhou ZHEJIANG RIBAO in Chinese 30 Jul 81 p 1

[Article: "Our Province's Key Rabbit-Raising Families Develop Rapidly; During the First Half of the Year, There Were Already Over 40,000 Families Raising an Average of More Than 25 Rabbits"]

[Text] According to statistics of concerned sectors, in the first half of this year, our province's "key families raising rabbits" have already developed to over 43,500 families, while in 1979 such families numbered less than 6,000. Now, the number of rabbits raised by these key families have already reached 1.08 million, constituting about 12 percent of the total number of rabbits being raised throughout the province.

The key families are farm families of the masses that raise more rabbits and that have higher technical experience. They have received assistance and help from concerned departments and have served to provide surrounding commune members with rabbits of superior breed and to teach techniques. These key rabbit raising families now average 25 rabbits per family. About half of the key rabbit raising families have an income from rabbit raising surpassing 300 yuan, including more than 130 families which raise an average of nearly 100 rabbits. Each year they sell several dozen jin of rabbit fur for an income of 1,000 yuan. The young commune member Cai Minglai [5591 2494 0171] of the Hezhong Brigade, Hongwei Commune, Yin County received an income of 1,213 yuan from raising rabbits between January and April of this year, averaging a monthly income of over 300 yuan.

The cases of "key families" becoming rich by raising rabbits are considered very attractive in farm villages. "Grasping the key families will lead the other thousands and ten thousands of families." The number of rabbits raised by commune member families throughout the province has now increased to 8.21 million, constituting over 85 percent of the total number of rabbits in cultivating grounds throughout the province, and 2.74 times the number in 1978.

9296

CSO: 4007/581

PRODUCTION RESPONSIBILITY SYSTEM AT STATE FARMS SUCCESSFUL

Beijing RENMIN RIBAO in Chinese 7 Aug 81 p 1

/Article: "Financial Contracts and the Production Responsibility System Have Mobilized the Enthusiasm of the Broad Number of Workers; the Yunnan State Farm System Turned Losses Into Profits In One Year" /

/Text/ Kunming, 6 August--NCNA reporter Zhang Li [T728 4539] reports: The 35 state farms of the farming and reclamation system of Yunnan Province have widely implemented financial contracts and established the production responsibility system of "fixed contract rewards." They have mobilized the enthusiasm of the broad ranks of workers and farms. The entire system turned losses into profits in one year. In 1980, rubber, food grains, sugar cane and industrial sideline production all developed greatly, the entire system turned a loss of 18.72 million yuan in 1979 into a profit of 41.12 million yuan.

The state farms in Yunnan Province ate from the "big pot" for a long time in the past. The enthusiasm of the workers could not be developed and many farms suffered losses year after year. Last year, the Yunnan Agricultural Reclamation Bureau implemented financial contracts at the state farms. At the beginning of the year, the bureau headquarters established the indicators of profit and loss for that year on the basis of the actual profit-and-loss situation the previous year of each farm, and ruled that profits surpassing the indicators would all belong to the farm, losses beyond the indicators would not be subsidized, and reduced losses would be given to the farm. The state-operated Dongfeng farm in Xishuangbanna is one of the relatively large rubber plantations of the Yunnan agricultural reclamation system. The headquarters of the Agricultural Reclamation Bureau assigned a profit indicator of 4.5 million yuan for contract work by the farm. After issuing the indicator, the farm assigned the indicator to 15 branch farms in accordance with different situations. Each branch farm assigned the task to the production teams, shifts, units and individuals. Because of contracting the work to each level, the targets were clear, the whole farm from top to bottom had a singular drive to carry out production. At the end of the year, the whole farm realized a profit of 9.45 million yuan, completing the contract plans with a surplus by 110 percent. Last year, after implementing financial contracts, 12 farms of the Yunnan agricultural reclamation system turned losses into profits, the number of units realizing a profit increased from 7 to 19 farms, the profit realized by the entire system increased 64.5 percent over plans. The 16 units suffering losses originally anticipated a loss of 8.01 million yuan, but the actual loss was only 2.16 million yuan.

The Yunnan Agricultural Reclamation Bureau also popularized the experience of establishing a production responsibility system practiced by the state-operated Jinghong farm. In 1979, this farm assigned fixed posts to workers, assigned fixed tasks, assigned fixed measures and demands, established fixed costs, fixed production value and fixed profit-and-loss indicators, and implemented rewards for surplus production. Following implementation of this system, the results were very clear. In that year, a profit of 11 million yuan was realized, making this one of the 10 farms throughout the nation to make a profit of over 10 million yuan. The Agricultural Reclamation Bureau proposed the establishment of a production responsibility system centered around "fixed contract rewards" in each aspect of work and in each profession within the entire system based on the method implemented at the Jinghong farm. It also emphasized that if the responsibility can be assigned to the individual, it should be assigned to the individual as much as possible; all responsibilities that can be assigned to families should be assigned to families. Many farms popularized this experience and realized visible results.

Yunnan is part of our nation's rubber production base. Last year, many farms contracted rubber plantations to forest management workers in plots of 30 to 40 mu per person and established management standards and methods of reward and punishment. Thus, the rubber plantations changed their appearance. The rubber trees were uniform, healthy and strong. Tapping production also implemented the method of "fixed trees and fixed personnel." As a result, dry rubber sheets totaling 17,992 tons were produced, an increase of 18 percent over 1979, and over 91,000 mu of rubber forests were newly planted. This year, up to 20 July, the entire system has already produced 9,865.99 tons of dry rubber sheets, constituting 58 percent of the annual production task. Other economic crops have also realized increased yields.

9296

CGO: 4007/578

Agricultural Experiments

AUTHOR: MIAO Guyuan [5379 2654 0954]

ORG: Shanxi University of Agriculture

TITLE: "Preliminary Observation of Morphological Indices of Drought Resistance of Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 7, Jul 81 pp 2-5

ABSTRACT: For the purpose of clarifying the morphological indices of drought resistance in wheat to use as a reference for breeding, cultivation, and increasing the yield of upland wheat, in 1973-74, more than 100 breeds of different types were studied in the upland region of Shanxi. The yield of wheat in that region fluctuates a great deal under the influence of weather; therefore, the yield of a given breed in a given year cannot serve as the drought resistant index and consideration must be given to yield stability under a designed condition of drought. In wheat, high yield and stable yield are definitely two related properties but the two do not always exist simultaneously. In the course of this study, under the upland environmental condition, some plants were sprinkled only once while other were not watered at all to produce yield indices of "normal yield" and "drought yield" respectively. Relationships between the height of stalk, length and slimness of spike, number of tillers and spikes, color and waxiness of leaves, and the shape and beardness of spike to drought resistance were observed, analyzed, and reported.

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TITLE: "Principle of Yearly Variation of Moisture Content of the Upland Soils of Datong City"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 7, Jul 81 pp 9-10

ABSTRACT: The variation of soil moisture content is comprehensively influenced by rain, evaporation, temperature, wind, soil texture, ground cover, and other factors. In 1980, on the basis of the soil moisture content data of 1961-66 of Yanbei Weather Station, the authors carried out periodical measurement of soil moisture at selected points of land belonging to agricultural stations of the 5 communes of Zhaojiaxiaocun, Gudian, Yungang, Xinrong, and Desheng. Results indicate that within a year's time, the soil moisture content in Datong City may be divided into 5 stages: (1) The stage of spring thaw, from early Apr to late Apr; (2) The spring reduction stage from early to late May; (3) The supplementing stage from early Jun to late Sep; (4) The slow reduction stage from early Oct to middle Nov; (5) The relative stability stage from late Nov to late Mar next year. Reasons for these changes are discussed.

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TITLE: "Basic Experience of Upland Wheat Production of Wanrong County"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 7, Jul 81 pp 11-14

ABSTRACT: Wanrong County is in the highland region of Emei Mountains and water is extremely scarce. Every year, 540-580 thousand mu of wheat is planted in the county, amounting to 55 percent of its total cultivated acreage. More than 90 percent of these wheat fields are strictly upland. This year, the wheat harvest is extraordinarily bountiful, reaching 250 jin/mu on the average, amounting to 1.44 times of that of last year. Aside from leaders of various ranks, the production responsibility system, and the timely rain, the authors credit the great success also to scientific cultivation, which is essentially: (1) Reasonable crop rotation and green manure soil enrichment; (2) Planting primarily wheat in summer fallow fields but using the same fields for cotton the year after; (3) Careful plowing and weeding to preserve moisture; (4) Applying a mixture of nitrogen and phosphorus chemical fertilizer initially before planting and to increase the nitrogen-phosphorus ratio from the 1 : 0 to 1 : 0.2-0.4 to overcome the serious phosphorus deficiency problem of the soils of the county. (5) Using suitable superior wheat breeds.

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TITLE: "Horizontally Continuous Regionalization Does Not Conform With the Reality of Shanxi"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 7, Jul 81 pp 22-23

ABSTRACT: The objective of agricultural regionalization is to divide land in accordance with the distribution characteristics of natural and social resources to make the arrangement of agricultural production more reasonable for the convenience of management as well as for determining correctly the direction of development. Due to the complexity of agricultural production it is difficult to master all its factors and aspects. The existing regionalization work, therefore, appears to have strayed from its purpose. Some believe a region must be continuous otherwise it cannot be called a region. Some believe there can only be one region of a certain characteristic in a given administrative jurisdiction. In Shanxi, the same natural conditions appear repeatedly here and there to cause a problem with regard to the above 2 definitions of a region. This is the reason why multiples of regionalization work have been completed in the province, but not a single piece of documented material has been produced that has any chance of being seriously implemented. Factors of vertical climatic variations, vertical distribution of animals and plants of the province are discussed to support the author's suggestion of dividing agricultural regions on the basis of elevation to form noncontinuous vertical regions.

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TITLE: "Ecological Analysis of Wild Soybeans of Shanxi Province"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 7, Aug 81 pp 5-9, inside back cover

ABSTRACT: On the basis of an overall observation of the wild soybeans of Shanxi carried out in 1979-80, the Shanxi Provincial Academy of Agricultural Sciences cultivated 200 materials collected from the observational survey for a systematic study of these wild plants. Based upon the annual mean temperature, the accumulated annual temperature, the frost-free period, etc. Shanxi Province may be divided into 6 ecological regions and the ecological types of wild soybeans also vary geographically with the change of the environmental condition in terms of growth period (95 -120 days), the stalk type, the characteristic of the pod, characteristic of the seeds, chemical composition of the seeds (protein content, fatty acid, etc.) These ecological variations of wild soybeans are discussed along with the environmental conditions of the natural habitat of the major types.

6248

CSO: 4009/20

Agricultural Science

AUTHOR: YOU Mu [3266 3658]

ORG: None

TITLE: "Develop and Utilize Feed Resources of Fujian With All Out Efforts"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 10 Aug 81 pp 3-5

ABSTRACT: Feed is the foundation of animal husbandry. It determines the cost and to a large extent the scale and the speed of development of animal husbandry. For the purpose of resolving the problem of feed, in recent years, attention has been given to utilizing stubble and vines, liquid and solid residue of sugar cane, using green manure for feed to produce animal manure as fertilizer, growing hydrophytes in all available streams, lakes, and ponds to be used as feed, promoting the use of residue cakes from oil pressing of beans peanuts, rapeseed, etc. for feed instead of fertilizer so as to produce animal manure as fertilizer, processing marine products or their residue into feed, processing wastes of slaughter houses into feed, raising earthworms to process into animal feed protein, raising high protein beans for feed. The author believes that with these methods, the condition of feed deficiency of Fujian Province may soon be overcome.

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TITLE: "Genetics of Glutinousness of Rice and Its Application in Breeding"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 10 Aug 81 pp 5-6

ABSTRACT: Most reports of studies on the genetic principle of glutinousness of rice claim it to be a recessive characteristic controlled by recessive genes while nonglutinousness is claimed to be a dominant characteristic controlled by dominant genes. During hybrid breeding work, the authors discovered that if a nonglutinous rice is used as the female and a glutinous rice the male, the F_1 is nonglutinous like the mother. If a glutinous rice is used as the female and a nonglutinous rice the male, the F_1 is nonglutinous like the father but some of the F_1 are glutinous and some are nonglutinous. There are even both kinds of grains on a single spike. In F_1 the segregation of nonglutinous and glutinous is in a ratio of 3 : 1. This genetic principle, the authors suggest, may be used to check if the F_1 is truly hybrid seeds, to increase glutinousness of hybrids, and to inspect the purity of hybrid seeds.

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TITLE: "Factors Influencing the Purity of Hybrid Rice and Solutions to this Problem"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 10 Aug 81 pp 7-8

ABSTRACT: Since the extension of hybrid rice, due to biological mixing, mechanical mixing, and breed changes, the sterility rate and orderliness of the major sterile lines and the purity of the sterile-free and restorer lines all have had various degrees of segregation, mixing, and degeneration problems. Various causes of these problems and techniques of purifying and rejuvenating the 3 lines of hybrid rice are explained.

AUTHOR: None

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TITLE: "Comparative Experiment of Autumn Soybean Breeds"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 10 Aug 81 pp 19-20

ABSTRACT: For the purpose of developing superior breeds of soybean that are early maturing, high yield, of excellent bean quality, highly resistant to disaster, broadly adaptable, tolerant of late planting, and suitable for the Sanming District, experiments were conducted in 1979-80 with 12 breeds in a random arrangement of plots of 24 x 4 chi with a 1 chi trench dividing the plots. Each hole is planted with 4-5 seeds to retain 3 seedlings and 18000 plants/mu form the design. The plants are observed for their growth and development period, the height of stalk, the grain test weight, the number of pods per stalk, the disease resistant property, and the yield level. Evaluations of the 12 breeds are reported.

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TITLE: "Prevailing Factors of Blast of Rice and Opinions Concerning Its Prevention and Control"

SOURCE: Fuzhou FUJIAN NONGYE KEJI [FUJIAN AGRICULTURAL SCIENCE AND TECHNOLOGY]
in Chinese No 4, 10 Aug 81 pp 24-25

ABSTRACT: In Sanming District, blast of rice regularly affects 228.9 thousand mu of paddies, amounting to 5.86 percent of rice acreage. Great epidemics of 1978 and 1980 affected more than 400,000 mu, and about 12 percent of the rice acreage. Factors influencing the prevalence of blast of rice include the breed, the weather, the fertilizer and water management. Following a relatively extensive discussion of each of these factors, the author suggests: (1) Accelerate the propagation of the blast resistant breed Zaohaiye No 8; (2) Rigorous disinfection of seeds and careful treatment of diseased straw; (3) Establishing 2 sets of superior breeds for periodical rotation and exchange; (4) Establish and improve seed farms to breed, propagate, purify, and invigorate superior breeds; (5) Increase the application of organic fertilizer and emphasize good fertilizer and water management; (6) Rotating different types of pesticides and spray on time.

6168

CSO: 4009/41

Agricultural Science

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TITLE: "Brief Introduction of Superior Breeds of Winter Wheat in the Southern Provinces"

SOURCE: Beijing NONGYE KEXUE TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 8, 17 Aug 81 pp 6-7

ABSTRACT: Superior breeds of winter wheat in the provinces of Jiangsu, Hubei, and Fujian are briefly introduced: They include Yangmo No 1 (of Yangzhou, medium to late maturing,) Yangmo No 2 (same, early maturing,) Yangmo No 3 (same, early maturing,) 9-10-8-3 (same, poor resistance to cold weather, medium to early maturing,) Wumo No 1 (of Wujin County, early to medium maturing,) Omo No 6 (of Hubei Province, semi-winter, medium maturing,) Jingzhou No 1 (of Jingzhou, high disease resistance especially during wet years,) Fufan 17 (of Fujian Province, early medium maturation, weak tillering,) Jinmo 2148 (of Jinjiang District of Fujian Province, a spring medium maturing breed.) Major characteristics of each of these breeds are described in separate paragraphs in the paper.

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TITLE: "Physiological Effect of Triacontanol on the Growth and Development of Winter Wheat"

SOURCE: Beijing NONGYE KEXUE TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 8, 17 Aug 81 p 3

ABSTRACT: Triacon is the highly physiologically active substance isolated by the U.S. horticulturist, S.K. Ries from the dried leaves of alfalfa. It is reported to increase the contents and dry weight of protein and fumaric acid of crops under the condition of darkness. It was introduced to China in 1978. In 1979-80, the authors used winter wheat as the test material for water culture under room temperature to study its effect on the growth and other physiological conditions of winter wheat seedlings. The test was repeated outdoors in the fields of Shuangdaowan Commune. Results indicate that Triacontanol can increase the grain test weight and unit yield of winter wheat and the effects of 0.1ppm and 0.5ppm are the best. Details of the experiments are reported.

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TITLE: "Several Technical Problems of Autumn Seed Preparation for Hybrid Rice"

SOURCE: Beijing NONGYE KEXUE TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 8, 17 Aug 81 p 15

ABSTRACT: In recent years, the weather has changed frequently and there have been many new composite groupings of hybrid rice. Some technical problems have surfaced with respect to seed preparation in the fall, and many different viewpoints concerning these problems exist. This paper reports the author's opinions concerning the following problems: (1) Quantity of pollens of the male and the ratio of male and female rows; (2) Method of artificial pollination and number of applications; (3) The substance of the problem of different blooming time of parents and its effect on the fruiting rate of the female. The author provides suggestions with respect to ways of resolving these problems.

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TITLE: "Mixed Application of Compost and Phosphorus Improves the Effect of the Phosphorus Fertilizer"

SOURCE: Beijing NONGYE KEXUE TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWSLETTER] in Chinese No 8, 17 Aug 81 p 26

ABSTRACT: Natural humic acid exists widely in soil, stream mud, grass ash, lignite, weathered coal, etc. but it is difficult to dissolve in water in most cases and difficult to be absorbed by plants. If it is combined chemically with potassium, sodium, or ammonium ions, or is added to nitrogen, potassium, phosphorus fertilizers, it can be easily absorbed by plants. Recent studies here and abroad point out that if substance with a high humic acid content is added to phosphorus fertilizer, or if peat of high humic acid content, farm fertilizer, etc. are mixed with fast phosphorus fertilizer before application, the effect of the phosphorus fertilizer may be increased. Results of studies on the subject, chiefly experimental results, carried out at the Beijing University of Agriculture in recent years are reported. Ground phosphorus rock, when it is added to humic acid type materials, does not show the dissolvent action, however. Effects of calcium perphosphate, ammonium phosphate, and calcium magnesium phosphorus fertilizer are found to be very obvious.

6168

CSO: 4009/45

Environmental Science

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TITLE: "Determination of Vanadium in Water by Graphite Furnace Atomic Absorption Spectrometry"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 1-3

ABSTRACT: This paper reports a study on the condition for using BPFA for extracting and concentrating vanadium with the high temperature graphite furnace atomic absorption method. Ordinary ion exchange and solvent extraction methods have been reported by others. Ishizaki et al (TALANTA Vol 26 (1980) p 523) discussed the use of BPFA and its derivatives but concluded that they cannot be used to extract vanadium of the mg level. In view of the fact that BPFA is easily available, the authors carried out this experiment. They found BPFA extraction to be satisfactory in determining the vanadium content in water, waste water, and sea water to the level of 10^{-7} to 10^{-4} g of vanadium per liter of water. Effects of water acidity, BPFA density, and other conditions are discussed.

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TITLE: "Determination of Cobalt in Soil by Graphite Furnace Atomic Absorption Spectrometry"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 4-7

ABSTRACT: The use of high temperature graphite furnace atomic absorption method to determine cobalt in soil has been reported before, but extraction is required to improve sensitivity and reduce interference. The use of heat decomposition graphite painted graphite tube can improve sensitivity but its use in determining cobalt has not yet been reported. The authors used the WFD-Y3 atomic absorption spectrometer, a WFX-1 graphite furnace, and a IZ3-100 function recorder to carry out the experiment. Nitric acid and hydrofluoric acid are used to break down and sulfuric acid to smoke the specimen. Lanthanum, calcium, and ascorbic acid are used to eliminate interference, and a deuterium lamp to minimize background absorption to determine cobalt in soil. Results are reported.

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TITLE: "Identification of Beno (k) Fluorathene in Environmental Samples"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4,
30 Aug 81 pp 7-10

ABSTRACT: Published literature of the past two decades indicate that BkF is an important element of polycyclic aromatic hydrocarbons (PAH) in the atmospheric dust particles, and is also one of the six PAH to be tested in drinking water. Isomers of BkF, including BaP, BbF, and BeP have different carcinogenic action; due to their close chemical property, mutual interference exists during analysis. Its isolation (and identification among the four chemicals) is, therefore, an important and difficult subject in PAH analysis work. This paper reports the work of analyzing the dust and water samples of a certain coking plant in Beijing to isolate and identify 15 major PAH. Most recently synthesized domestic GC-MS and paper chromatographic-fluorimetric method are used. The analysis procedure and result are reported.

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TITLE: "Pol of Diphenol Ether in Soil"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4,
30 Aug 81 pp 18-21

ABSTRACT: In south China, mud from the bottom of streams and rivers is regularly dredged and used as fertilizer and through this type of mud the pollutants discharged by some chemical plants enter the fields. Diphenol ether has been rather extensively used in China mainly as a heat carrier. In April 1977, in a certain area of Suzhou, 7500 tons of mud from the canal was used to make a compost and applied in rice paddies. Soon afterwards, seedlings died in massive numbers, and earthworms, eels, etc. which are highly pollutant-resistant, completely disappeared from these paddies. Workers who had contact with the mud developed a series of symptoms. An analysis disclosed the fact that the mud was highly contaminated by diphenol ether. This paper reports a preliminary study on the duration of retention of diphenol ether in soil and its effects on rice and wheat. Results indicate that the maximum tolerance of the chemical by rice is 25ppm, and 200ppm for wheat. Its retention in soil is about 3 months.

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TITLE: "Problem of Application of Organic Arsenates to Rice Plants in Zhejiang Province and Its Safety in the Field Environment"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 29-32

ABSTRACT: In provinces of Jiangsu, Zhejiang, Fujian, Taiwan, etc. zinc methylarsonate (Daojiaoqing) and calcium methylarsonate are frequently and extensively used to control sheath and culm blight of rice (*Pellicularia sasakii* (shirai) Ito). These insecticides are easily made, highly effective, and very inexpensive, but whether or not they will cause pollution of rice paddies is a problem of extreme concern for many people and opinions vary a great deal on the subject. In the past few years the authors have been studying their distribution in soils and their traces and residues in rice grain. Samples are taken from 10 counties of Zhejiang Province. A comparison of early rice seeds and harvested rice seeds indicates that the residual arsenic content is less than the permissible standard of the state. There is no obvious conclusion regarding their contamination of soil. Continued observation is deemed necessary.

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TITLE: "Effect of Atmospheric Fluoro-contaminants on the Fluorine Content of Vegetables"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 41-44

ABSTRACT: Four vegetable-producing areas in the vicinity of the main source of fluoride contaminants are selected for sample study and specimens of two areas, 65 km and 31 km respectively from Baotou Steel and Iron Company, which is the source of fluoride pollution, are used as the control. Results of the study demonstrate that atmospheric fluorides can cause the fluorine content of vegetables to increase but the effect of fluoride-containing irrigation water is less obvious. The fluorine content of vegetables is the highest in the leaves and the lowest in the fruits, and the fluorine content of vegetables is water soluble. Soaking vegetables in water may cause the fluorine content to be reduced considerably.

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TITLE: "Bonded-phase Chromatography in the Determination of Chlorinated Pesticides in Water"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 46-50

ABSTRACT: Although gas chromatography has often been used in the analysis of chlorinated pesticide contents in water, some problems remain unresolved. The pesticide content of a water specimen is usually very low and concentration is necessary beforehand. Generally, either an absorbing agent or funnel extraction is adopted for concentration and both are complex and time consuming. Since the bonded-phase technique was proposed by W.Aue in 1973 (J.CHROMATOGR. Vol 77 (1974) p 299) this new stationary phase has attracted increasing attention. This paper reports an experiment testing this technique. After 405 support body is bonded to Carbowax 20 M, the SE-30 stationary phase is smeared on and used to analyze the organic chlorine insecticide content of water. Results indicate that when this bonded-phase is combined with an electron capture detector, 0.005 ppb of insecticide (para α -BHC) in water may be identified.

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TITLE: "Application of Hilbert Space Theory in Comprehensive Assessment of Environmental Pollution Problems"

SOURCE: Beijing HUANJING KEXUE [ENVIRONMENTAL SCIENCE] in Chinese Vol 2 No 4, 30 Aug 81 pp 57-60, 79

ABSTRACT: This paper reports an attempt of applying the Hilbert space theory for a vector analysis mathematical model to derive an index of comprehensive environmental pollution. This model is compared with other models, such as the N.L. Nemerow model, to prove that this model can clearly reflect the contribution of each pollutant and determine the compound action of all pollutants. A sample environment is given to explain that although the content of each pollutant does not exceed the permissible standard by itself, the compound result does exceed the limit allowable and in an environment such as this fish will die.

6248

CSO: 5000/4002

Forestry

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TITLE: "A Study on Infection of Anthracnose on *Cunninghamia lanceolata* (Lamb.) Hook"

SOURCE: Dalian LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 3, Aug 81
pp 250-257

TEXT OF ENGLISH ABSTRACT: The pathogen of anthracnose (*Colletotrichum* sp.) on the Chinese fir has a strong saprophytic ability. Residue of tissues affected can provide the source of the pathogen for a long time. The pathogen can directly invade host plants, in addition to wounds. From late spring to early summer, when shoots of the Chinese fir are growing quickly, the infections reach their greatest amount. In seriously affected stands, new shoots are almost entirely attacked.

[Continuation of LINYE KEXUE No 3, Aug 81 pp 250-257]

On part of them symptoms appear in autumn, but most of the affected shoots are diseased in the next spring. The incubation period is more than 10 months. Weak trees are more easily attacked, while strong trees do not appear to have symptoms although the pathogens are in the tissue. Thus, the basic measures to control anthracnose on the Chinese fir include finding a suitable place for planting and taking good care during growth. A determination of the duration of infection provides the scientific basis for fungicidal application.

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TITLE: "A New Method of Vegetative Propagation in *Phyllostachys pubescens* Mazel ex H. de Lehaie"

SOURCE: Dalian LINYE KEXUE [SCIENTIA SILVAE SINICAE] in Chinese No 3, Aug 81
pp 287-290

TEXT OF ENGLISH ABSTRACT: Treatment of young leaves with 800 to 1200 ppm of ethrel produced clustered secondary shoots on nearly all the nodes. After the removal of the primary leaves, the clustered secondary shoots were buried in soil, while still connected with the mother plant. Four months later, about 50 percent of the clustered secondary shoots bore roots. They could survive when separated from the mother plant. When the secondary shoots were further sprayed twice with 1000 ppm ethrel, the rooting percentage increased to 90 percent, with well developed root systems. Ten months after planting, the secondary shoots tillered two to six times. The bamboo shoots thus obtained reached a height of 50 cm, some even 100 cm.

This new method of propagation has many advantages: It does not need seeds, it is very simple to manipulate and the percentage of survival is high.

9717

CSO: 4009/40

Genetics

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TITLE: "Cytogenetical Study of Homologous Asyndetic Triploid Derived from Anther
Culture in Rice"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 3, Sep 81
pp 262-268

TEXT OF ENGLISH ABSTRACT: Among 23 pollen plants of the first generation derived from intercultivar hybrid of rice, two plants of homologous asyndetic triploid were discovered. This paper might be the first one reporting homologous asyndetic triploid in rice, especially those derived from anther culture. From cytogenetic study of meiosis of these triploids, there has not been found chromosome pairing in diplotene, diakinesis and metaphase I. Thirty-six univalents are represented. Whether or not the chromosomes before diplotene are in pairs was not observed. The distribution of lagging chromosomes is continuative in anaphase I.

The other abnormal phenomena in meiosis are:

- 1) Monstrositas (abnormality) of spindle. Its appearance in morphology is:

[Continuation of YICHUAN XUEBAO No 3, Sep 81 pp 262-268]

divergent spindle in "V" shape, curved spindle in "C" shape or poly-pole spindle.
In a number of spindles they appear as poly-spindles.

- 2) Syncytium to be made up from 2 to more than 10 PMCs.
- 3) Tetrad division.
- 4) Abnormal microspore (from monads to octads) in the tetrad stage.

These two triploids may be considered asyndetic because the evidence of non-pairing chromosomes has not yet been obtained before diplotene. The origin of the asyndetic gene of these two asyndetic triploids might be traced to be: (1) recessive mutation, (2) dominant mutation and (3) asyndetic gene segregated from hybrid F₁ pollen. The authors consider the first assumption to be predominant.

The role of the asyndetic gene in homologous conditions is discussed by comparing these two homologous triploids with meiosis of the three base-allotriploid in *Oryza* that is "(*Oryza sativa* (AA) x *O. latifolia* (CC DD))" hybrid F₁ (ACD) and "(*O. sativa* (AA) x *O. minuta* (BBCC))" hybrid F₁ (ABC).

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TITLE: "A Study of Embryogenesis in Pollen Callus of Maize (*Zea mays* L.)"

SOURCE: Beijing YICHUAN XUEBAO [ACTA GENETICA SINICA] in Chinese No 3, Sep 81
pp 269-274

TEXT OF ENGLISH ABSTRACT: In anther culture of maize, we have obtained a pollen callus from an anther of Var. Batangbai. After subculturing several times, the callus continually gives rise to a lot of embryoids, some of which later grow into plantlets. This capacity of embryoid formation has been maintained by subcultures up to 24 times in two years. A cytological and histological study was carried out and the results revealed that on the whole the developmental process of embryoids is similar to that of zygotic embryos, but with the former some have changed their morphological features, which would be related to the initiation and location of the embryogenic cells. The development of embryoids is not synchronous, therefore the different stages of embryoids, from single embryogenic cells, two to eight cellular embryoids, multicellular ones to mature embryoids, can be observed in the same callus. Thus it is shown that embryoids could be originated from single

[Continuation of YICHUAN XUEBAO No 3, Sep 81 pp 269-274]

cells. The examination of the chromosome numbers of root tips of the plantlets indicates that the embryoids and callus may be haploid so that the ploidy lever is relatively stable *in vitro* culture for such a long time that a haploid embryogenic clone of maize can be established. The clone will be useful for the research of theoretical and practical problems in the improvement of maize.

9717
CSO: 4009/38

Plant Protection

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TITLE: "A Study on DIMBOA of Corn--Factors Influencing the DIMBOA Contents and Detection Techniques"

SOURCE: Tianjin ZHIWU BAOHU [PLANT PROTECTION] in Chinese No 4, 8 Aug 81 pp 2-4

ABSTRACT: Starting from the fifties, research on DIMBOA of corn has had a history of more than 2 decades. DIMBOA is a biochemical substance of corn with which it resists many diseases and pests; therefore, it may be used as a biochemical index to identify the adversity resistance of a breed of corn. The DIMBOA content of corn changes under the influence of many factors. Its reduction or loss in some inbred lines has been regularly observed as one of the chief reasons for its loss of disease and pest resistance, yet under a suitable environment with improved nitrogen nutrition, the DIMBOA content of an inbred line may be promoted to increase so as to increase its resistance. This paper introduces the nature of DIMBOA of corn and a technique, which is a revision and improvement of LONG's technique as reported in 1975, to determine the DIMBOA content of corn. Effects of freezing and thawing of corn tissues on the test result are discussed.

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TITLE: "Problems of Infections of Wheat and Corn by Cotton Wilt Pathogens"

SOURCE: Tianjin ZHIWU BAOHU [PLANT PROTECTION] in Chinese No 4, 8 Aug 81 pp 33-34

ABSTRACT: Early reports of studies on cotton wilt pathogens (*Fusarium oxysporum* f. *vasinfectum*, and *Verticillium albo-atrum*) indicated that these pathogens have a narrow range of hosts, limited to cotton, high mallow, and autumn mallow. In recent years, many scientists of the field believe their hosts include a broad range of plants. Many of these hosts are carriers without obvious symptoms. The authors of this paper carried out experiments in 1978 and in 1979 to test their ability to infect wheat and corn. With 100 cotton plants as the control, the pathogen specimens successfully wilt diseases in cotton but failed to produce any wilt symptom or pathogens in either wheat or corn. This result is contrary to other reports on the subject. Whether the different experimental results are due to a difference in the physiological types of the pathogens used is a problem in need of further study.

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CSO: 4009/44

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